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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,497	07/29/2003	Makoto Ogiso	116208	5054
25944	7590	05/09/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			GIMIE, MAHMOUD	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/628,497

Applicant(s)

OGISO ET AL.

Examiner

Mahmoud Gimie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/02/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robichaux et al (6,513,493).

Robichaux et al discloses a control apparatus for an internal combustion engine having a variable valve mechanism capable of changing a valve (16,18) opening characteristic regarding an open state of an intake valve, and a throttle valve (14) capable of changing a negative pressure in an intake pipe, the control apparatus comprising: a controller (26) capable of controlling the valve (16,18) opening characteristic and a degree of opening of the throttle valve (14), the controller being adapted to control an amount of intake air taken into the internal combustion engine through **at least one of** the control of the valve opening characteristic and the control of the degree of opening of the throttle valve in accordance with an output (engine torque, engine speed, throttle position) that is requested of the internal combustion engine, wherein the controller is further **adapted to**, during a first operation state (figure 2) where the amount of intake air is controlled through the control of the valve (16,18) opening characteristic control, control the degree of opening of the throttle valve (14) within a range of the degree of opening of

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the throttle valve that allows maintenance of an atmospheric pressure in the intake pipe under a condition that the valve opening characteristic is in a steady state (maintain constant torque, col. 10, ll. 51-53) at least during the first operation state, while maintaining a continuity of the degree of opening of the throttle valve (14) during a period of switch between the first operation state and a second operation state where the amount of intake air is controlled through the control of the degree of opening of the throttle valve (14) only, see col. 10, ll. 31-39.

Robichaux et al does not explicitly teach controlling the intake air through the control of the degree of opening of the throttle valve only when transitioning between two regions of control. However, he teaches that after controlling the intake valve and the throttle valve, the intake valve control may be turned off (col. 10, ll. 36) which suggests that the intake air is controlled through the throttle valve only.

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Robichaux et al by recognizing the control of intake air solely through the throttle valve when transitioning between two states. The motivation to do so would have been to provide smooth transitioning between engine operating regions.

With regard to claim 2, wherein the controller is further **adapted to** maintain the range of degree of opening of the throttle valve that causes presence of the atmospheric pressure in the intake pipe (manifold) during a transitional period during which the opening valve characteristic is changing.

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With regard to claim 3, wherein the variable valve mechanism comprises an electromagnetically-drive valve.

With regard to claim 4, Robichaux et al discloses a control apparatus for an internal combustion engine having a variable valve mechanism capable of changing a valve (16,18) opening characteristic regarding an open state of an intake valve, and a throttle valve (14) capable of changing a negative pressure in an intake pipe (12), the control apparatus comprising: a controller (26) capable of controlling the valve opening characteristic and a degree of opening of the throttle valve, the controller being **adapted to** control an amount of intake air taken into the internal combustion engine through at least one of the control of the valve opening characteristic and the control of the degree of opening of the throttle valve in accordance with an output that is requested of the internal combustion engine, wherein the controller is further adapted to, if a switch between an intake amount control through the control of the degree of opening of the throttle valve and an intake amount control through the control of the valve opening characteristic is requested, cause the requested switch after an output of the internal combustion engine based on a currently performed intake amount control has reached a steady state.

With regard to claim 5-13, the limitations are comparable to the above rejections of claims 1-4, and applicant is directed to the above rejections and figures 1-10 for further details.

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references show intake air control systems.
4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) . prior art under 35 U.S.C. 103(a).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahmoud Gimie whose telephone number is 571-272-4841. The examiner can normally be reached on Tuesday-Friday between 7 a.m. -3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 571-272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MG

  
MAHMOUD GIMIE  
PRIMARY EXAMINER